

Claims

What is claimed is:

1. A component that discovers devices on disparate networks within industrial control systems, comprising:
 - an interface component that couples at least one TCP/IP-based network with one or more non-TCP/IP-based networks; and,
 - a service component that searches the at least one TCP/IP-based network and the one or more non-TCP/IP-based networks for devices and returns information indicative of discovered devices.
2. The system of claim 1, the non-TCP/IP-based networks are employed in connection with one or more industrial protocols.
3. The system of claim 2, the industrial protocols comprise at least one of Ethernet/IP, DeviceNet and ControlNet.
4. The system of claim 1, the interface component and the service component reside within a microprocessor-based system or an EtherNet/IP-based module.
5. The system of claim 1, the interface component provides Web-based communication with the devices.
6. The system of claim 1, the service component periodically re-discovers networks and devices.
7. The system of claim 1, the service component detects when a network or device is added or removed and dynamically updates the returned information.
8. The system of claim 1, the interface component further provides a security mechanism that mitigates device access by unauthorized requesters.

9. The system of claim 8, the security mechanism is based on at least one of a policy, a password, a firewall, a code, an identity, a log-on, and an address.
10. The system of claim 1, the interface component is provided with at least one of the following to facilitate discovering devices: a particular device; a device type; a device characteristic; a requester identity; a keyword; and a link to a search engine.
11. The system of claim 10, the device characteristic indicates the search is directed to at least one of configured devices, added devices, removed devices and faulted devices.
12. The system of claim 1, the service component filters results prior to returning information.
13. A portal that provides Web communication with industrial devices residing on TCP/IP and non-TCP/IP networks, comprising:
 - a proxy component that facilitates access to the TCP/IP and non-TCP/IP networks; and,
 - an engine that discovers industrial devices residing on the TCP/IP and non-TCP/IP networks and provides information related to the industrial devices, the information can be utilized in connection with the proxy to communicate with the industrial devices.
14. The system of claim 13, the proxy component employs software that provides Web functionality for industrial devices on the non-TCP/IP networks.
15. The system of claim 13, the proxy component facilitates communication between industrial devices residing on similar and different networks.

16. The system of claim 13, the proxy component includes a Universal Serial Bus (USB) interface that facilitates receiving and conveying information with the industrial devices.
17. The system of claim 13, the non-TCP/IP-based networks employs at least one of a Control & Information Protocol (CIP) network and a Data Highway Plus (DH+) network.
18. The system of claim 13, the engine dynamically discovers newly added and removed networks and industrial devices and dynamically updates the related information.
19. The system of claim 13, the engine employs intelligence that facilitates locating and discovering industrial devices and returning related information, the intelligence employs at least one of a statistic, a probability, a classifier, and an inference.
20. The system of claim 13, the proxy component facilitates one or more of the following: controlling, configuring, monitoring, and communicating with the industrial devices.
21. The system of claim 13, the proxy component further comprises the ability to retrieve industrial device-related information from one or more of a manual, a web page, a log, a history and a file.
22. The system of claim 13 further comprises a configurable security component that verifies and validates authorization to one or more of the industrial devices.

23. A method for servicing a Web-based request for available devices residing on a non-TCP/IP-based network, comprising:
- receiving the Web-based request;
 - searching for non-TCP/IP networks based at least in part on information within the Web-based request;
 - discovering devices residing on the non-TCP/IP networks; and
 - returning information indicative of the non-TCP/IP networks and the devices to a requester.
24. The method of claim 23 further comprises employing software that provides Web functionality for the devices on the non-TCP/IP networks.
25. The method of claim 23, the Web-based request comprises information related to at least one of the following: a request originator, a location, a time, a date, a sort technique, a filter, and a unique identifier.
26. The method of claim 23 further comprises dynamically updating the returned information when a network or device is added or removed.
27. A method to discover industrial devices residing on a non-TCP/IP-based network, comprising:
- employing a proxy that couples TCP/IP and non-TCP/IP networks and provides Web-based functionality for the non-TCP/IP-based networks;
 - searching the one or more non-TCP/IP-based networks for industrial devices; and
 - returning information associated with the discovered industrial devices.
28. The method of claim 27 further comprises employing security to mitigate unauthorized access to the discovered devices.
29. The method of claim 27 further comprises employing intelligence to facilitate discovering devices and returning device-related information.

30. A system that facilitates Web access to industrial devices residing on disparate networks, comprising:

means for interacting with TCP/IP and non-TCP/IP networks;

means for discovering industrial devices associated with the TCP/IP and non-TCP/IP-based networks;

means for returning information indicative of the discovered devices; and

means for accessing the discovered devices.